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ABSTRACT

The results obtained by three test administration modes were examined with a focus upon systematic bias due to lack of standardization of test administration procedures. The My Class Inventory was administered to ninety classrooms of fifth grade students in a large suburban school district. The 45 items on the inventory are distributed over five factors: satisfaction, friction, competitiveness, difficulty, and cohesiveness. The test was administered in three ways: (1) by the teacher; (2) by outside test administrators; and (3) by children, using pre-recorded tape cassettes. Significant differences were found for factors of satisfaction, friction, and cohesiveness, but there were no significant differences among methods on competitiveness and difficulty. There were factor differences and overall differences between teacher administered and the other techniques. There were no significant differences between outside administrator and the student cassette tape method. Student tape cassettes were the preferred technique because they minimized teacher bias, were inexpensive, and standardized directions and procedures. Results also indicated that the pre-recorded taped directions administered by students more closely approximated the results obtained by an outside evaluator than did the results obtained by teacher administration of the same instrument. (Author/JAC)

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CONTROLLING TEACHER BIAS IN ATTITUDE TOWARD SCHOOL MEASURES

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Standardization of test administration procedures and control of systematic bias in test score results is frequently assumed in attitude measurement. This assumption is becoming an increa ingly crucial issue in the research context of using attitude measures as an integral part of school evaluation studies. While numerous instruments have been developed which purport to measure children's attitudes toward various aspects of the educational system, few evaluators have taken into consideration aspects of psychometric testing theory other than reliability and validity. It is too often simply assumed that testing procedures are either standardized or will not effect results. It is with this latter assumption that many questions can arise.

The realities of the test situation and the procedures of test administration can, and often do, bias test results. Many times, teachers are asked to administer instruments within their own classrooms with few attempts being made to standardize the administration procedure or to impress upon the teacher the possibility that he or she may influence the children's

responses. In an attitude toward school measure, the teacher and the setting which is being measured is an overwhelming reality which continually surrounds and effects the child's life. How can a child respond negatively to a question such as "I like my teacher" if that teacher is administering the test? Teachers can and do influence responses with such behaviors as frowns and glancing at papers, or making comments such as "I hope you answer all the questions correctly!"

There are at least two alternative methods which could be employed to administer attitude toward school measures that would tend to negate the effects of teacher bias from a child's test responses. First, an outside test administrator could be utilized. This, however, is costly to the school in terms of time and money. An outside evaluator would have to be hired and trained. An elaborate scheme must then be arranged to coordinate the testing schedule. Arrangements for giving the tests within each individual classroom would have to be made.

A second alternative is to allow the children themselves to administer the attitude measure. While this could be accomplished in several ways, it would seem that an additional degree of standardization would be achieved if the test directions were pre-recorded on a tape cassette. The test papers could then be packaged with the cassette recording and written instructions for the children. The children would play the tape and follow its directions. Additionally, the teacher would need to leave the room so that the children

would feel free to respond in an open manner. At the end of the testing period, the children would then be asked to return the completed test papers to the package, seal it, and return it to a central pickup point.

The three test administration procedures described above were used in a research study to determine if one method of administration would produce statistically different test score results. The type of test administration used in the research was: (1) teacher administered, (2) outside evaluator administered, and (3) student administered with a tape cassette recording.

The population sample consisted of approximately 75 classrooms of fifth grade children in a large suburban school district. All of the children who were included in the sample were white, middle-class, regular public school students in the fifth grade. This homogeneous sample was used in order to further minimize differences which might occur in a test population.

The classrooms were randomly divided into three groups. Group 1 had the test administered by their respective teachers, group 2 had the test administered by an outside evaluator, and group 3 administered the test to themselves using tape cassette directions.

The attitude test used in the research was the My Class Inventory developed by Gary J. Anderson. This measure was developed for use with eight to twelve-year old children. Each child is asked to agree or disagree to forty-five test

items such as "The class is fun" and "Only the smart people can do the work in our class."

The forty-five items are distributed over five factors: (1) Satisfaction, (2) Friction, (3) Competitiveness, (4) Difficulty, and (5) Cohesiveness. The reported factor reliabilities range from .54 to .77. A factor analysis of this population produced parallel factors to the reported factors. The individual reliabilities, corrected for attenuation, on this sample ranged from .54 to .79.

Mean scores and standard deviation for each factor and the total score are presented by group in Table I.

TABLE I

MEANS AND STANDARD DEVIATION'S OF FACTORS AND TOTAL

	Group 1 (n=23)		Group 2 (n=25)		Group 3 (n=24)	
Factor	$\bar{M}$	6	$\bar{M}$	6	$\bar{M}$	6
1	20.2	5.1	18.9	4.9	18.9	5.3
2	19.4	3.5	20.3	3.7	19.9	3.9
3	20.1	3.7	21.2	3.4	21.2	3.6
4	14.8	3.5	14.9	3.4	14.7	3.4
5	20.4	3.3	19.7	3.3	19.8	3.5
Total	96.0	6.9	95.0	7.1	94.6	7.6

A one-way analysis of variance was used to determine if there was a difference between administration groups. A Fisher's t-test for independent sample was used for multiple comparisons as needed. The results of this analysis appear in Table II.

TABLE II

RESULTS OF ONE-WAY ANALYSIS OF VARIANCE
BETWEEN ADMINISTRATIVE GROUPS

Factor	F	t for 1,2	1,3	2,3
Satisfaction	13.90*	4.73*	4.39*	0.25
Friction	9.41*	-4.33*	-2.38*	1.90
Competiveness	0.15	N/A	N/A	N/A
Difficulty	0.47	N/A	N/A	N/A
Cohesiveness	6.66*	3.40*	2.86*	-0.47
Total Score	5.23*	2.25*	3.14*	0.94

*p .05 df=2,1822

There were statistically significant differences on thre of the five factors. On the factors of Satisfaction, Friction and Cohesiveness, the differences were between the teacher administered method and both outside evaluator and tape administered methods. There were no differences among methods on Competitiveness and Difficulty.

By inspecting the means presented in Table I, it can be seen that the mean for the Satisfaction factor was higher than for the other two methods. The Friction factor has a mean lower on the teacher administered method than on the other methods. On the Cohesiveness factor, the mean for the teacher administered method is again higher.

For the overall total scores, the differences were between the teacher administered methods and both the outside administered

method and the tape administered method. The teacher administered method had a higher overall mean score. There was no statistical difference between the outside evaluator method and the tape administered method.

Given the choice of preferable methods of administration, it seems that the method of tape recorded administration has several advantages for the educational evaluator. First, it can minimize teacher bias. The teacher is not present during the testing and should not handle the test package. Both verbal and nonverbal communication by the teacher can be controlled in this manner.

Secondly, the tape method is inexpensive. One person records the directions and then the recording is duplicated. Test packets are compiled and can be distributed through school dis ict postal systems. When the testing is over, tapes can be erased and used again.

Lastly, the tape method standardizes the directions and procedures. All the children responding to any one instrument receive exactly the same directions and follow the same procedures. Classroom groups using the tape administration method follow the procedure in the same amount of time and with a minimum amount of class disruption as compared to the other two groups.

Based upon the findings cited above, it would seem that the conclusion could be drawn that the tape administration method is an effective means of achieving standardization in administration and reduction of systematic teacher bias in attitude measurement related to educational settings.